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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,885	07/03/2001	Raghavan Rajagopalan	MRD / 62	2179

7590 09/18/2002

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EXAMINER	
CEPERLEY, MARY	
ART UNIT	**PAPER NUMBER**
1641	7

DATE MAILED: 09/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/898,885	Applicant(s) RAJAGOPALAN ET AL.	
	Examiner Mary (Molly) E. Ceperley	Art Unit 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-39 is/are pending in the application.

4a) Of the above claim(s) 2-39 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-39 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☒ Interview Summary (PTO-413) Paper No(s). 6d 4.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1) Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claim 1, drawn to dye compounds wherein E = H (see claim 1), classified in class 548, subclass 156.

II. Claims 1 (part) and 2-10, drawn to dye-biomolecule compounds wherein E ≠ H (see claim 1), classified in class 530.

III. Claim 11, drawn to dye-biomolecule complexes (biomolecule defined in claim 11), classified in classes 435, 536, 564, 562, etc.

IV. Claims 12, 13, 26-30 (part of each), drawn to a phototherapy method using the compounds of claim 12 wherein E = H, classified in class 514.

V. Claims 12 (part), 13 (part), 14-22, and 26-30 (part of each) drawn to a phototherapy method using the compounds of claim 12 wherein E ≠ H.

VI. Claims 23-25, drawn to a phototherapy method using dye-biomolecule complexes classified in class 514 based on the exact type of dye and biomolecule used.

VII. Claims 31-33, drawn to a phototherapy method using two or more Type 1 agents, classified based on the specific types of photosensitizing agents.

VIII. Claims 34-36, drawn to a phototherapy method using two or more Type 2 agents (claim 34), classified based on the specific types of photosensitizing agents.

IX. Claims 37-39, drawn to a phototherapy method using at least one Type 1 agent and at least one Type 2 agent classified based on the specific types of photosensitizing agents.

Each dye type as defined in claim 1 constitutes ***a separate and distinct invention*** since the various dye types are structurally and functionally different in nature. In addition to electing one of I-VIII above, applicants ***must further elect a specific type of dye*** as set forth in claim 1.

2) The inventions are distinct, each from the other because of the following reasons:

a) Inventions ***a)*** I and IV, ***b)*** II and V and ***c)*** III and VI are related as product and process of use. The inventions can be shown to be distinct if either either or both of the following can be shown: (1) the process for using the product as claimed can be be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP 806.05(h)). In the instant case, for example, the intermediate product of I is deemed to be useful as an additive to photoresist compositions for improvement of light sensitivity and adhesion (see U.S. 3,887,379, Example I) while the intermediate of II comprised of a dye complexed with an antibody is deemed to be useful as an immunoassay reagent for detecting the corresponding antigen in a biological sample. The inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

b) Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, the compounds of the two inventions are structurally and functionally dissimilar. Group I is comprised of azide dyes (wherein E = H) which have a linker-functional group termination while the compounds of Group II are conjugates of azide dyes with biologically active agents. The compounds of Group I do not have the biological binding activity possessed by the compounds of Group II.

c) Inventions ***a)*** each of I-VI and ***b)*** each of VII-IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the methods of each of VII-IX do not require the use of any of the specific compounds or complexes of Groups I-IV while each of Groups VII-IX requires diverse combinations of different types of phototherapy agents.

3) Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter requiring divergent, burdensome searches in both the patent and technical literature, restriction for examination purposes as indicated is proper.

4) Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5) On June 10, 2002 a provisional election was made by Mr. Jefferies with traverse to prosecute the invention of Group I, claim 1 wherein the dye moiety is defined as a cyanine. Affirmation of this election must be made by applicant in replying to this Office action. Claims 2-39 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to non-elected inventions.

6) Applicants' election with traverse of Group I in Paper No. 5 is acknowledged. The traversal is on the ground(s) that the inventions of the various groups have a common core defined by a single generic formula and that therefore all inventions should be examined together. This is not found

persuasive because the various "DYE" moieties do not define a common core. The various "DYE" moieties are drawn to such structurally diverse compounds as cyanines (containing two linked benzothiazole rings as shown in Fig. 3, classified in class 548), phthalocyanines (containing multiple isoindole groups cyclically linked as shown in Fig. 2), fluoresceins (dibenzopyran-containing compounds, classified in class 562) and selenium containing compounds (phenoselenazines) which do not have a substantial structural feature which constitutes a common core. These compounds have attained separate status in the art as evidenced by their divergent classification requiring different fields of search and different patentability considerations. A reference which might anticipate or render obvious the members of one Group would not necessarily render obvious the members of any other group. Applicants have not indicated on the record that all compounds encompassed by the single generic formula E—L—DYE—X—N_3 stand or fall together. The *mere recitation in the same claim* of several items (or compounds), for example, a tire, a sheet of paper and a clothesline does not necessarily mean that these items together constitute a proper genus.

The requirement is still deemed proper and is therefore made FINAL.

7) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8) Claim1 is rejected under 35 U.S.C. 102(b) as being anticipate by each Pochinok et al Chem. Abstract No. 1984: 439817) and Ol'shevskaya et al (Chem. Abstract No. 1974: 522751). Each of the references describes a compound which corresponds to the formula of instant claim 1 wherein E = H, X = a single bond, the "DYE" moiety is a cyanine derivative and L = $-(CH_2)_a-$ wherein a = 0. These

compounds anticipate the compounds of instant claim 1. See the circled formulas of pages 2 and 3 of Pochinok et al; Ol'shevskaya et al: the first structure of page 8 and the first structure of page 9.

9) Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Clecak et al (U.S. 3,887,379). Clecak et al describe azide-substituted dye compounds which correspond to the structure of instant claim 1 wherein E = H, X = a single bond and L = $-(CH_2)_a-$ wherein a = 0. See Clecak et al: Examples I, III, and IV. These compounds anticipate the compounds of instant claim 1.

10) Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Leung et al (U.S. 6,004,536). Leung et al describe compounds which correspond to the structure of instant claim 1 wherein E--L = H—linker and X is a linker. See the azide-terminated dyes depicted by the formula of col.4, line 20; col. 5, lines 45-53; col. 6, lines 10-27; and col. 16, lines 14-24. These compounds anticipate the compounds of instant claim 1.

11) Hurditch (U.S. 6,077,584: col. 7, lines 55-63; structures (I) – (III) and (VI)) and MITSUBISHI (Derwent Acc. No. 1999-433836: structures (Ia) – (IVc)) are cited to further show the state of the art.

12) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary E. (Molly) Ceperley whose telephone number is (703) 308-4239. The examiner can normally be reached from 8 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le, can be reached at (703) 305-3399. The fax phone number for responses to be filed BEFORE final rejection is (703) 872-9306. The fax phone number for responses to be filed AFTER final rejection is (703) 872-9307.

Questions which are NOT RELATED TO THE EXAMINATION ON THE MERITS, should be directed to **TC 1600 CUSTOMER SERVICE at (703) 308-0198**. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

September 17, 2002

Mary E. Ceperley
Primary Examiner
Art Unit 1641